Infectious Disease Epidemiology Report

*Meningococcal disease, 2006 – provisional**

Background

The Infectious Disease Epidemiology program of the Maine Center for Disease Control and Prevention monitors the incidence of invasive meningococcal disease through mandatory reporting by health care providers, clinical laboratories and other public health partners. This report summarizes provisional surveillance data on cases of invasive meningococcal disease from 2006.

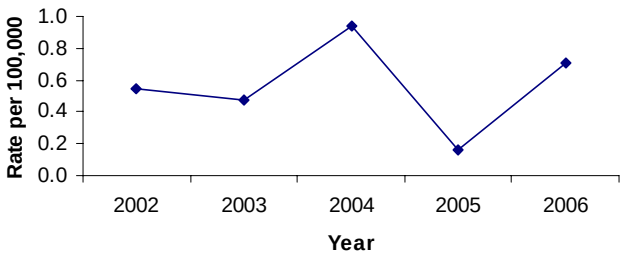
Methods

Invasive meningococcal disease was defined as isolation of *Neisseria meningitidis* from a normally sterile site (e.g., blood or cerebrospinal fluid [CSF] or, less commonly, joint, pleural, or pericardial fluid). Standardized case report forms were completed for each reported case in 2006. Serogrouping was performed on *Neisseria meningitidis* isolates at the Maine Health and Environmental Testing Laboratory (HETL). Rates were calculated using U.S. Bureau of Census population counts for 2000.

Results

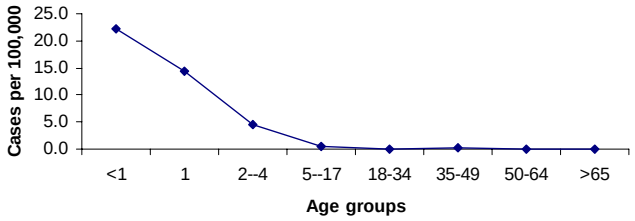
A total of 9 cases of invasive meningococcal disease were reported in 2006 for a rate of 0.7 cases per 100,000 population (Figure 1).

Figure 1: Rate of invasive meningococcal disease by year -- Maine 2002-06



Infants and young children had the highest rate of meningococcal disease (Figure 2). The majority of meningococcal infections were found among males (66.7%) and persons of White racial background (88.9%).

Figure 2: Rate of invasive meningococcal disease by age -- Maine, 2006



Of the nine cases reported in 2006, four (62.5%) were clinically diagnosed with meningococcemia, three (33.3%) with meningitis, one (11.1%) with meningococcemia and meningitis, and one (12.5%) with septic arthritis. No known deaths were associated with invasive meningococcal disease reported in Maine in 2006.

Four types of meningococcal disease are vaccine-preventable (serogroups A, C, Y, and W-135). One case reported in 2006 was serogroup Y (Table 1).

Table 1: Count of Invasive meningococcal disease by serogroup – Maine, 2002-06

Year	Serogroup					
	B	C	Y	W-135	Un-typable	Un-known*
2002	3	3	0	0	1	0
2003	0	2	1	1	0	2
2004	2	3	2	0	0	5
2005	2	0	0	0	0	0
2006	6	0	1	0	2	0
Total	9	10	6	1	1	8

* Isolate not received at HETL for serogrouping.

Meningococcal disease was identified among residents of five counties in 2006: Androscoggin, Cumberland, Kennebec, Somerset, and York (Figure 3).

* Data available as of 1/21/2007

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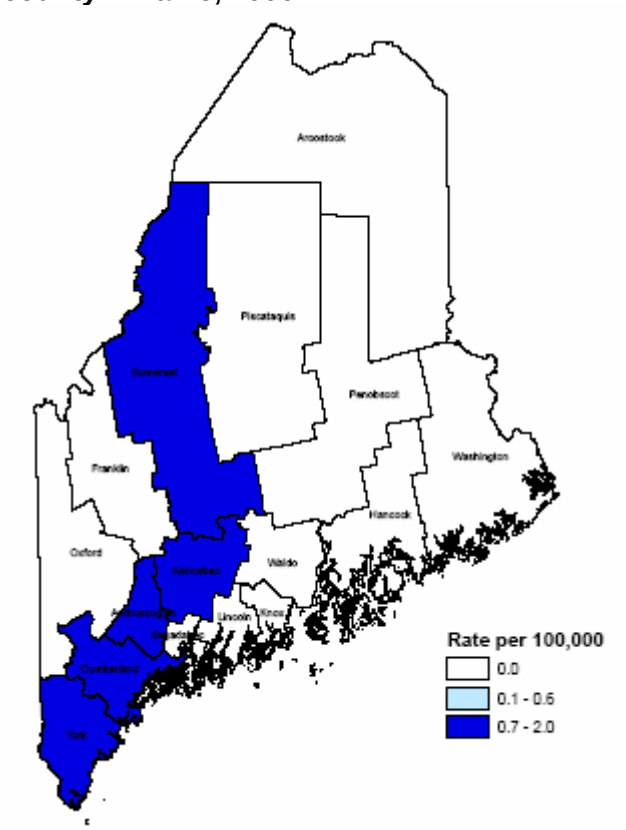
Figure 3: Invasive meningococcal disease by county – Maine, 2006



Healthy People 2010

Maine has achieved the US Healthy People 2010 goal for invasive meningococcal disease. The nation objective is to decrease the incidence of invasive meningococcal disease to 0.9 per 100,000 population. In 2006, the incidence of invasive meningococcal disease in Maine was 0.6 per 100,000.

2010 Objective	2006 Maine Rate
0.9/100,000	0.6/100,000

Discussion

In 2006, nine cases of invasive meningococcal disease were reported in Maine, primarily among infants and young children. Meningococcal disease can cause neurological disability, limb loss, and in some cases death. However, this illness can often be treated effectively with antibiotics.

Nationally, more than 98% of cases of meningococcal disease occur sporadically, though outbreak may occur. Meningococcal disease can be controlled and prevented through vaccination and chemoprophylaxis among close contacts of cases.

Two vaccines for meningococcal disease are currently available in the United States. Menomune® (MPSV4), a tetravalent polysaccharide vaccine, is recommended for use among certain populations at increased risk, including travelers to countries with epidemic or hyperendemic meningococcal disease, persons who have certain medical conditions (i.e., terminal component deficiencies and anatomic or functional asplenia), laboratory personnel who are routinely exposed to *N. meningitdis* in solutions that might be aerosolized, college freshman, and in outbreak settings. Menactra™ (MCV4), a tetravalent conjugate vaccine, is licensed for persons 11-55 years and is recommended for routine vaccination among young adolescents (persons aged 11-12 years), as well as those persons previously recommended to receive MPSV4.

Antimicrobial chemoprophylaxis is recommended to prevent sporadic meningococcal disease among close contacts of a patient with invasive meningococcal disease. Close contacts include:

- Household members
- Child-care center contacts, and
- Anyone directly exposed to the patient's oral secretions (e.g., through kissing, mouth-to-mouth resuscitation, endotracheal intubation, or endotracheal tube management).

For travelers, antimicrobial chemoprophylaxis should be considered for any passenger who had direct contact with respiratory secretions from an index-patient or for anyone seated directly next to an index-patient on a flight lasting $\geq$8 hours.

Clinicians suspecting meningococcal disease should report cases immediately by phone: 1-800-821-5821. Epidemiologists are available 24 hours a day to assist in disease control measures.

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